

**Partnership In Development**

**Construction Of The Sewerage Systems In The Squatter Settlements Of Pakistan**

**By**

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## **Construction Of The Sewerage Systems In The Squatter Settlements Of Pakistan**

**By**

**Farah Tanvir**

**Submitted to the Department of Urban Planning  
on May 15, 1997 in Partial Fulfillment of the  
Requirements for the Degree of Master in City Planning**

### **ABSTRACT**

Financing infrastructure network for the low income communities have always been a major issue faced by the governments because of their inability to recover the cost from them. The governments of the developing countries lack funds to carryout the development work free of cost and as such a large number of low income settlements are devoid of basic services.

In the squatter settlements of Karachi and Sukkur, the cities of Pakistan, government and the people have entered into a partnership in constructing sewerage systems. The development work was divided between them. The internal development which is the construction of sewer lines in the lanes, was financed, constructed and maintained by the people where as the External Development, which is the construction of main trunk sewer and treatment plant were constructed, financed and maintained by the government. This work was done with the help of a NGO, Orangi Pilot Project (OPP). OPP provided the technical and social guidance and helped in forming this partnership.

This study looks at the three settlement areas where the work was done. As this integrated projects were started without any organizational frame work, there were problems in coordination amount the participants, activities, roles and responsibilities were not properly planned. On the basis of the problems identified, an organizational set up is proposed to achieve a better level of coordination among the participant of the project. The aim of this thesis is not only to identify the weaknesses but also the strengths of this process. The lessons learnt from these projects would help in future improvements.

**Thesis Supervisor : Omar Razzaz  
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## **1 . INTRODUCTION**

### **1.1 : TOPIC : Partnership In Development - Construction Of Sanitation systems In The Squatter Settlements Of Pakistan.**

This is a study of a local development process in Pakistan, where the government agencies, non-government organizations, donor agencies and the residents of the squatter settlements collaborated to carry out development of sanitation systems. The residents participated not only in the decision making process but also shared the costs of construction. The purpose of this study is to analyze the process and suggests recommendations for future improvements.

### **1.2 : BACKGROUND**

In Pakistan about 58 % of the urban population is living in low income, informal settlements. This population is expected to increase due to higher natural growth and in-migration from rural areas. The formal sector cannot even meet 20 % of the annual housing need.<sup>1</sup> The gap in the supply and demand lead to un-serviced or under-serviced squatter settlements mostly on state owned land; the creation of informal settlement through the subdivision of agricultural land on the city fringes; and the densification of already degraded city centers.

Karachi is Pakistan's largest city. It is estimated that by the year 2000, it's population will be around 12 million. At present more then 40 % of Karachi's population is living in the squatter settlements.<sup>2</sup> In 1985, The government established Sind Katchi Abadi Authority (SKAA) and Department of Katchi Abadi in Karachi Municipal Cooperation (KMC) to legalize these settlements, to provide the basic services to them and for the future planning of the lower income settlements. But due to lack of resources these ambitions never materialized.

For the most part, the land was supplied by the land grabbers and the middlemen through the illegal occupation and subdivision of state land. Finding no help from the government, the people

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<sup>1</sup> Hasan, A. "Pakistan Low Cost Housing Project", paper for Asian Development Bank.

<sup>2</sup> *ibid.*

of the squatter settlements built their houses, got water lines (mostly illegally) or bought water from nearby source, laid sewerage lines or built soak pits, got roads or lanes paved, lobbied for electricity and transportation. They paid for all these services.

The people are spending money to improve their living and the informal sector caters to their needs. They provide services which are affordable to them but are substandard in quality. In a survey of 46 settlements carried out by Orangi Pilot Project (OPP), an NGO, it was found that people have laid sewer lines in 51% of the lanes and water lines in 41% of the lanes investing 29.6 million, whereas only 15% lane sewers and 16% water lines have been laid by the government. But due to the lack of knowledge and low quality of work and in case of soakpits, the adverse soil condition, the sewerage problem in these settlements presents a dilemma. Without any proper sanitary latrines and underground sewerage lines both health and property of the residents are endangered. The conventional cost of the underground sewerage is quite high and is therefore, unaffordable for these poor people.

### **1.2.1 : Institutional Constraint**

The municipal authority and the government's development agencies do not have the capacity to upgrade these settlements free of charge. The cost of development is so high that the residents of these settlements cannot afford to pay. The problem of the squatter settlements is so immense that it could not be solved through foreign loans especially if the cost could not be recovered from the beneficiaries. Apart from the financial constraint the lack of managerial and planning capabilities, corruption, self interests of the politicians further worsened the situation.

The following development programs were undertaken for the city of Karachi.

- Karachi Special Development Program
- Karachi Urban Development Program
- Sind Urban Development Program

These programs involved different local development agencies like KDA (Karachi Development Authority), KMC (Karachi Municipal Authority), SKAA (Sind Katchi Abadi Authority), and

Planning and Development Department, Government of Sind. Due to overlaps of target areas and duplication of work, these programs were not producing the required results. In general terms, insufficient coordination in physical planning and implementation is put forth along with the financial constraints.

Further, the alienation of these processes from the community action, mars the spirit of community organization and participation. People do not pay the cost of development nor do they maintain the same if they are not involved in the development process. These processes also do not evolve as a model for replication because of their alienation from the local settings.

Each time a planning process is undertaken it does not build up on the existing but rather tries to approach the problem from a fresh but equally alien angle. Apart from this, there have been unorganized, uncooperative actions by the government because of political pressures, specifically during elections, resulting in overlap of target areas and duplication of work, wasting the allocated resources.

### **1.2.2 : Informal Sector**

The magnitude of support from the informal sector can be judged by the fact that the formal sector in Pakistan provides only 180,600 housing units per year in the urban sector against a demand of 428,000. The annual deficit of 257,400<sup>3</sup> housing units is taken care by the informal sector.

The land grabbers subdivide the land close to habitation, according to municipal standards. They also arrange for the basic facilities. The informal building material supplier provides building materials on credit. The local leader in almost all cases forms a community based organization and get it registered. These local leaders organize the community and lobby for the basic facilities. A number of Informal enterprises are created. A power supplier provides electric power

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<sup>3</sup> Hasan, A. "Pakistan's Low Cost Housing Projects"

through generators, movie operators, small scale manufacturers and service providers and local transporters provide these services to the community.

### **1.2.3 : Orangi Pilot Project (OPP)**

Orangi Pilot Project (OPP), an NGO, offers a solution, based on simplified technology which lowers the cost to enable the residents to lay sewerage lines themselves, spending their own money. It was felt that if the right kind of technical support and tools could be provided and if the lane residents could be organized and trained to use them, then an underground sewerage system, financed and constructed by the people could be developed. OPP has been working for the last sixteen years in Orangi, which is situated in the out skirts of Karachi. It provides technical and social guidance to the low income squatter settlements so that these communities can improve their living and physical environment on self help basis, mobilizing their own resources.

#### **Orangi**

Orangi is the largest squatter settlement in Karachi. It was created, for the most part, through the illegal subdivision of state land. It has a population of one million living in 94,122 houses which the people have constructed themselves, with the help of the informal sector. Health and education services are also provided by the informal sector. Piped water has been available for most of the settlement area through lobbying. The vast majority of Orangi residents are members of the working class.

People of Orangi were also not able to pay the cost of a conventional sewerage system. In the absence of a sewerage system, filth flowed into their lanes. The ground water table rose. This rise spread the menace of water logging. The majority of the people of Orangi used bucket latrines which a scavenger would empty out every fourth or fifth day, very often into the unpaved lanes. The more affluent houses constructed soakpits, which filled up after a few years and did not solve the waste water problem. Some people laid sewerage lines from their houses to the nearest natural drain. These lines were usually defective and as in some cases, there were no communal effort, one found many parallel lines in one lane. The condition of the lanes was very bad,



sewerage flowed in the lanes which caused diseases especially among children and damaged houses.

### **Simplified Technology Made The Sewerage System Affordable**

The OPP intervened at this stage offering a solution based on simplified technology and lowered cost to enable the residents to improve their physical environment by themselves. OPP emphasized to the community that the key to development at the local level is that they cannot rely on the government alone to provide services for them. The first step towards building up a sewerage system, therefore was to organize the community. A typical lane in Orangi consists of about 20 to 30 houses. Each lane was considered a unit of organization. This is because it is small and cohesive, and easy to manage.

An underground sewerage system is a complex affair, and developing one lane at a time without a master plan, was considered by planners, an invitation to disaster. However, because of innovation and modification to engineering practice, no disaster took place.

### **Methodology Of OPP**

The methodology for developing lane organizations consisted of four stages. First, the OPP social organizers, who are paid employees of the OPP, would hold meetings in the lane and with the help of slides, models and pamphlets, explain the program to the people, along with its economic and health benefits. They would explain that the government agencies KDA (Karachi Development Agencies) or the KMC (Karachi Municipal committee), do not lay sewerage lines free of cost, and their charges could not be afforded by the lane residents. The motivators would tell the people that if they formed an organization in which the whole lane participated, then the OPP would give them assistance.

In the second stage, the organization was born and chose its lane managers who on behalf of the lane formally asked for assistance. In the third stage the OPP technical staff surveyed the lanes, established bench marks, prepared plans and estimates of both labor and materials and handed over this data to the lane managers, and handed over this data to the lane managers. Lastly, the

lane managers collected the money from the people and called meetings to sort out any problems involved in the work. The OPP staff supervised the process. At no time, however, did the OPP handle the money of the people.

As no central supervision and controlling agency was looking after the work being done, and as people in some cases worked themselves, the only way of guaranteeing the quality of work was by educating the people. Research was carried out to identify standard engineering designs. The results of this research were taken to the people through a massive extension effort and hundreds of meetings were held. As a result people learnt about mixing concrete and curing it and about the proper manner of making inverts. This extension effort led to a great improvement in the standard of work, and more and more lanes applied for assistance. In addition, it also led to a major modification to conventional sanitation technology and procedures and made them compatible with the concept of a community financed and built system. It also reduced costs substantially (1/5 of the cost of a conventional system) and resulted in major technical innovation<sup>4</sup>.

#### **1.2.4 : Affordability**

It is argued that it is unfair to ask poor people to pay for these services. But in absence of any government support the only way out of this degradable situation is to organize themselves for self help. Further, survey of these settlements clearly indicate that people have been spending in sewerage system; they are laying sewerage lines not only in Orangi and outside Orangi but also in the other cities of Pakistan. Due to lack of knowledge, the quality of work done is very bad and they end up laying and relaying the line many times and spending more money than required. The condition remained deplorable and their expenditure on health care increased.

With the help of the simplified technology the cost is reduced drastically. The people of Orangi laid sewerage lines on self help basis. The involvement of people in the provision of their own infrastructure reduced costs, improved the quality of work and helped to ensure that facilities

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<sup>4</sup> Rahman, P. And Rashid ,A. "OPP's Concept, Methodology and Program"

were properly used and maintained. The elimination of payments to various middlemen, more appropriate standards and cost effective technologies helped in reducing the cost. The cost further reduced where residents decided to work themselves and bought materials in bulk prices.

Research by the OPP revealed that the development cost as charged by KDA/KMC was about 7 times the cost of actual labor and materials involved in constructing an underground sewerage system. Where foreign financial assistance was involved, costs went by 30 % to 50 % and where international tenders were called, it went up by up to 250 %. In the end the user was being asked to pay Rs 25 for something whose actual cost was only rupee one<sup>5</sup>. These high costs, it was established were due to high overheads, excessive profiteering by the contractors, kickbacks to government officials and fees to foreign consultants who came with the loan package.

### **1.2.5 : Partnership In Development**

In 1993, Karachi Municipal Cooperation (KMC) started sanitation project in some parts of Orangi, aided by Asian Development Bank (ADB). OPP interfered because KMC was laying the sewerage system in that part of Orangi where people had laid self- financed sewerage lines under the technical support of OPP. After many negotiations and convincing, KMC agreed to lay the main trunk, since the people have laid the lane sewers. Further, in the absence of a main trunk the sewerage was being disposed off in the nearby creeks. This saved KMC about Rs 287 million which was reserved for the construction of the lane sewers.

This was the first time that a government agency worked with an NGO and recognized people's work. This experience served as an example. OPP and government agencies collaborated with communities to carry out sanitation work in other parts of Karachi and Sukkur (3rd largest city of the province of Sind). The developing agencies and the people were partners in the development process by sharing cost, managerial and maintenance responsibilities. OPP acted as an intermediary between them and helped the community to carry out internal development. The development work was divided into "Internal Development" and "External Development".

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<sup>5</sup> Hasan, A. "Scaling - Up Of The OPP's Low- Cost Sanitation Program"

Internal development was the responsibility of the people. It is the development at the tertiary level, consisting of the construction of lane sewers, sanitary system and secondary drains (if required). The external development is the construction of main trunks, final disposable point and treatment plant, which was done by the government as it is expensive and require technical expertise. By involving community in sharing the cost of construction, it becomes affordable for the government agencies to carry out development works in other areas.

### **1.3 : OBJECTIVE OF THE THESIS**

The objective of the thesis is to look at this local development process and identify issues leading to its success and failures and to form recommendations based on these results for future improvements.

The study is based on three case studies which are representative cases not only because they differ in location, institutions involved but also because different methodologies and concepts were applied. The study will look at the following components of the cases.

#### **Role and Responsibilities**

Division of work between government agencies, NGOs, CBOs and residents in the process and its implications.

#### **Institutional Organization**

Working process within institutions and with public. The relationship amongst the institutions and the its influence on the process.

#### **Decision Making Process**

How decisions are made in all phases and at all levels? Is the decision making process integrated? if not than what are its implications?

### **Design And Phasing Of The project**

What are the design criteria chosen for the projects and what it should be? What is the process of designing and what are the factors which effect design considerations? To look at the phasing of the projects, time scheduling and its impact on the outcome.

### **Working Process**

Usual conflicts, misunderstandings effecting the working process.

### **Implementation**

Usual problems faced in the implementation process. Factors restricting or facilitating implementation.

### **Monitoring**

actors involved in the monitoring at different levels of the project and the problems faced by them.

### **Maintenance And Operation**

Problems encountered during maintenance and operation of the project at all levels.

### **Finances**

Costs of the project and comparison with alternatives.

The findings as a result of the analysis of this development process would help to formulate policies that would help in the improvement of the process and its application.

## **1.4 : METHODOLOGY OF THE THESIS**

The research is based on three case study areas. The methodology to conduct this research was through site visits, interviews with the residents, area activists or member of community based organizations, field staff and officials of the government agencies and OPP.

My first case study area is Orangi which is situated in the outskirts of Karachi. In this project the community, KMC, ADB and OPP were involved. The second case study area is Welfare Colony which is in the center of the city. Here community, OPP and SKAA collaborated to carry out the development work. The third case study area, Gol Tikkri, is in Sukkur. Here the site area is comprised of three settlements located close to each other. UNICEF, SKAA, PHED, OPP and SMC (Sind Municipal Cooperation) were involved.

The local community based organizations played an important role in the process. It is through these organizations that the community correspond to different government agencies and politicians for their demands. I talked to the area activists Mr. Shumsuddin and Mr. Saleem Shahzad of Orangi, Mr. Mehboob Shah of welfare Colony and Mr. Shums of Gol Tikri about the project while visiting the area. I asked them how the settlement started? What were the efforts made by the people for the basic services? Did they paid for these services? What were the problems they faced and what was the contribution of the government in the area? I asked them their opinion about this project. How their organization approached the respective government organizations or the government agencies approached them.

They showed me the work done by the government and the residents and discussed about the project. I asked them how they organized people to pay and construct the internal lines? What problems they faced in organizing the community? Who resisted and why? Were the government staff accessible? How many times the government employees came to see the work? How accessible the OPP staff were? When you had any complaint who did you go? Who helped. Are you satisfied with the project? Should the process of development be like this, where community and the government share the cost? What changes they would suggest and why? They also gave chronology of events that took place during the project and showed documents related to the work.

I visited the case study areas and interviewed some of the residents. These were all owners and were living there since the beginning of the settlement. I went inside their houses met with the

members of the house that helped me in getting an idea of their income, number of family members and got a chance to talk to women as well. No questionnaire was given to them rather it was an informal talk.

I asked what were the conditions before this project? What problems they faced and what initial efforts they took to get services? Did they paid for them and how much their local councilor contributed? What is their monthly income and how many family members are there? How many times they go to the doctor or buy medicine in a month? What are their monthly expenditure on health and how much they spent on the genitors to clean the pits? What are the improvements they see now after the project? I asked their opinion on having to pay for internal development and if they would have not paid for this project, was this work possible? I asked their opinion about the behavior of OPP and government staff and the role of the activists. What were the common problems or conflicts they encountered? I asked the residents of Welfare colony, how they collectively decided to built the covered drain with the lease money? What were the problems before the construction of the covered drain and what improvements they see now?

I visited OPP office, talked to the field staff and the director of housing and sanitation Ms Perveen Rahman. I asked what problems they faced in dealing with the community, activists and the government staff and the contractors? The OPP director provided the chronology of events and relevant data. I asked her how replicable this process is to other parts of Karachi and to other cities since in case of cities there is change in institutions involved, the culture and income level differs. What are the factors replicable and what are not? What improvements in her opinion should be made in the working procedures in the present? How can the corruption at lower level be controlled? I interviewed Mr. Ramzan Qureshi and Mr. Jawed who are social organizers and technicians at OPP. I asked them how they motivate people to construct the lane sewers and the problems they encounter in doing that? Difficulties in monitoring government contractors and what were the common conflicts they had?

I interviewed Director General of SKAA, Mr. Tasneem Siddiqui in the SKAA office at Karachi. I asked him about the projects, what improvement should be made, is it replicable to other cities,

what are the hurdles in doing it. How he sees the role of the OPP? What are the criteria on the basis of which areas were selected? I talked to Mr. Jawed Sultan, who was incharge of the Sukher project and Mr. Mansoor, who was incharge of the Welfare Colony project. I asked them what difficulties they faced during the process? How was the interaction with the community, activists and OPP? What changes they would recommend and why?

The Facts and figures were obtained from SKAA and OPP offices which helped in making the assessments.



## **CHAPTER TWO**

### **CASE STUDY 1**

#### **2 : Collaboration In Orangi, Out skirts Of Karachi**

##### **2.1 : INTRODUCTION**

Orangi is Karachi's largest squatter settlement. November 1989 survey shows that there are 110 neighborhood, 6347 lanes and 94122 houses. Settlement in Orangi began in 1965. At present it's area extends to about 8000 acres. It's population is estimated to be one million. It consists of mixed ethnic group. People belong mostly to the working classes - laborers, skilled workers, artisans, shopkeepers, peddlers, clerks. Average family income is estimated to be around Rs. 3000. Average family size is 8 and majority family type is extended. The settlers have bought land from touts and built their homes without government's help.

The Karachi Special Development Program funded by the ADB, planned to develop some parts of Orangi (740 acres). This development program included building roads, sewerage and water lines, in return the beneficiaries were expected to pay lease charges covering the cost of land and development.

Official agencies have provided some facilities like main roads, water lines, electricity, few schools, hospital and a bank. However the people of Orangi have to depend much more on informal sources. Around 6347 lanes have been laid and 94122 houses have been built without any assistance from government agencies. 509 private schools have been set up by the people. The same sustained energy and wide scope is seen in transportation and medical arrangements. Responding to a little social and technical guidance given by OPP's low cost sanitation program, the people have constructed with their own funds and under their own management sanitary latrines in their homes and underground sewerage lines in their lanes as well as collector sewerage.

In the areas chosen for the project, development work has been done due to the efforts of the local organizations and motivated activists. These activists work on voluntary basis. They were able to put political pressure and were able to lobby for some of the services and facilities in the area. Being representative of the community, they played an important role in this project. They helped OPP in motivating and mobilizing the community. The most important role they played was of monitoring. They mobilized the community and this was the first time the community was monitoring the government's work. There was excellent working relationship between the OPP(NGO) and the local organization.

## **2.2 : BACKGROUND OF THE PROJECT**

ADB recommended that the program will be successful only if it is financially viable. This viability is only possible if payment by the residents is guaranteed. This can only be done if the program is suitably modified to lower development costs and involve communities in development. The external development will be carried out by the municipal authorities at their costs and internal development will be under taken and financed by the community which will be motivated, advised and supervised by the project on the model (suitably modified) of Orangi Pilot Project.

Contrary to ADB mission recommendation, KMC, appointed a consultant for designing and planning the sewerage scheme consisting of construction of sewerage lines in the lanes, open drains (collector drain) along main roads and conversion of the natural creeks into a narrow open drain.

The OPP felt that the program would be just a duplication of existing sewerage infrastructure, hence, a mere waste of resources. It observed that the role of KMC in this ADB funded project had to be clearly defined, in this regard the OPP carried out an assessment of the work done, its likely impacts and gave suggestions for effective utilization of ADB funds. Main points raised in the evaluation were that; the majority of the lanes have an underground sewerage system, laid by

the people. The ADB funded project ignores this existing development. The open collector drains have been proposed where there is no need. Instead of providing underground sewerage lines open drains have been proposed ignoring the fact that they are health hazards. The wide natural creek was proposed to be converted into a narrow open drains of 2 to 3 feet, which means devastation in the rainy season.

The cost of the project is too high considering the consequences of this project that there would be duplication of work hence waste of finances. Disrespect of peoples work would mar the spirit of community organization and participation. The construction of open drains and conversion of the creek into narrow drain would add to environmental pollution and multiply disasters during rains. Due to these, people would be alienated from the development, cost would be a burden on them and they will not pay the lease charges.

OPP suggested the role of actors in this project on the principal that the work already done either by people or government should be integrated. People's role should be to finance, implement, manage and maintain the sewerage lines in the lanes and sanitary latrines in the houses. The councilor should construct collector drains through the annual budget. KMC should undertake external development i.e. construction of the main lines, development of the natural creek and treatment plant through ADB funds,

OPP extended its concern to the Mayor and Director, Directorate of Katchi Abadies and concerned officials, held meetings with them and presented the work already done by the people and tried to convince them that it would be a waste of resources. As a result, the Mayor visited the site, accepted OPP's concern and decided to involve OPP in this project.

In this agreement the Karachi Metropolitan Corporation (KMC) appointed OPP as a community advisor, the objective being that the lane sewers laid by the people on self- help basis should be kept intact as far as possible and integrated with the secondary sewerage system and necessary technical solutions be adopted to incorporate lane sewers with the over all design

## **2.3 : DESIGN AND PHASING OF THE PROJECT**

In Karachi, provision of trunk sewers is the responsibility of the KMC and for the project area of Orangi KMC appointed a consulting firm to design the sewerage network. The consultants appointed by the KMC were responsible for the planning of the sewerage system in the project area. Planning done by the consultants did not consider the sewerage system already in existence, which was done either by the community or the councilors. They did this to increase the scope of work, so that with the increased amount of work, their consultancy charges would also increase.

The design of the trunk sewer was done ignoring the existence of the natural creeks which is the discharge point of the existing sewerage lines and designed with mechanical system based on a number of pumping stations, they would continuously benefit from its operation and maintenance expenses.

At the request of the Mayor, OPP developed a schematic plan removing the necessity of all pumping stations by developing the natural creek as the trunk sewer. The cost was drastically reduced. The Mayor accepted the proposal and asked the engineers of KMC and their consultants to modify the design as per OPP's proposal.

OPP was included in the project by the Mayor to provide documentation about the work already completed. This documentation provided a clear evidence that the consultants planned for which already existed on ground. In reaction, the Mayor issued a notice to the consultants to exclude the component of internal development from the contract and appointed OPP as a consultant for the planning of internal sewerage development for this project. This resulted in a discord between OPP and the consultant. OPP and the consultants see each other as opponents. With this attitude, it was difficult to coordinate the project activities.

## **2.4 : PROJECT COSTS**

During the period between 1981 to June 1992, in 74% of the lanes people have laid underground sewerage lines, thereby making an investment of over Rs. 53 million. According to a study done

by the OPP for the UNESCO in 1991, cost of the sewerage work done by the KMC through its contractors is five times higher than the work done by the community. Therefore, if the same work would have been carried out by the KMC, it would have cost Rs. 255 million.

#### **Difference In Cost Between Conventional And Integrated Approach :**

Items Of Work ( cost in millions )	Conventional Approach (cost in millions )	Integrated Approach
External Development	27.8	27.8
Internal Development	287.0	57.4
Institutional and direct cost to OPP for the project period	0.72	-
<b>TOTAL</b>	<b>315.52</b>	<b>85.2</b>

## **2.5 : ROLE AND RESPONSIBILITIES OF THE ACTORS**

As per the verbal agreement between the Mayor of the Karachi Metropolitan Corporation (KMC), the responsibility of OPP included the provision of documentation of existing sewerage work carried out by the community or councilor through the annual grant-in -aid they receive from KMC, at the internal and external level, identification of the remaining work, planning and design for the internal sewerage system.

OPP had to continue its previous role (which it has been playing since 1981) to mobilize community and provide technical advice and support for the internal development. For the external development, OPP has a advisory role in planning and execution so as to integrate the external development. The responsibility of KMC was to provide the maps of the settlements included in the project area, and other necessary information as may be required by the OPP for

the documentation of the existing work. It was also responsible to prepare the master plan for the sewerage development, incorporating the external and internal work.

The second phase started with the strengthening of the role of OPP. This was done by the Mayor for two reasons; first was the uncooperative attitude of the KMC officials in providing the maps and other necessary documents; second was the realization by the Mayor of the extent of sewerage development already existing and of the proposal by the consultants in collaboration with the engineers of the Karachi Metropolitan Corporation to undertake the same development again.

The Mayor and the OPP decided to formalize their relationship by signing an agreement. As per the agreement OPP was appointed as a consultant to KMC to undertake the planning for internal and external development, for this particular project. Due to the attainment of legal position by OPP the officials of KMC were bound to cooperate with it in the fulfillment of the responsibilities.

#### **Summary Of Roles and Responsibilities :**

Roles	Actors	
	Phase 1	Phase 2

#### **Documentation Of Existing Work:**

- To provide or arrange to provide OPP with all available relevant plans and maps-- and other data.

KMC

KMC

- Provision of documentation of existing development of documentation already undertaken.

OPP

OPP

**Design and Planning :**

- Planning for internal development i.e. sewerage lines in the lanes and small collector drains.

OPP

OPP

- Preparation of a sewerage master plan incorporating the planning for internal and external sewerage development.

KMC

KMC

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**Finances :**

- Financing for internal development
- Financial support to the project to undertake the external development.

Community

Community

ADB

ADB

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**Advise, Training and Motivation :**

- Mobilize the community to undertake internal sewerage development and at the time of implementation provide technical advise and support.

OPP

OPP

- Training of the community and lane activists for mobilizing the community and supervision of the work.

OPP

OPP

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**Implementation :**

- Construction and maintenance of lane sewers and small collector drains.
- Construction of big collector drain along main road, development of natural creek and construction of treatment plant.

Community

Community

KMC

KMC

**Monitoring and supervision:**

- Supervision of internal development

undertaken by the people so as to

integrate it with the external development.

OPP

OPP

- Supervision of external development so

as to integrate it with the internal development.

OPP

OPP

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**2.6: COMMUNITY PARTICIPATION**

With a decade long efforts made by OPP in Orangi, People of Orangi have been involved in the development of the sewerage system in the lanes and have acquired a high level of awareness. As they have financed and managed the development, they are willing to integrate with the secondary sewers which are to be constructed by the KMC so that their work will become the part of the larger sewerage network.

People all over Orangi, including the project area, are continuously laying sewerage lines in their lanes which discharges sewage into the existing open drains built by the councilors through the annual grant-in- aid which they received from the KMC.

Although the OPP is working in Orangi since more than a decade, there were still some pockets in the project area where the people did not know enough about OPP and about the integrated approach. For the mobilization of these groups, motivational meetings were held by the social organizers of OPP in the area and the people participated in these meetings. Overall in Orangi people have accepted their role as a partner in developing a sewerage network.

**2.7: INSTITUTIONAL ORGANIZATION**

The integrated project in Orangi could be divided into two phases. The first phase comprises the period from March 1991 to September 1991, when OPP and the Karachi Metropolitan Corporation (KMC) on the basis of a verbal agreement started to work together. The second phase comprises the period from October 1991 onwards when it was felt both by the Mayor and



the OPP that unless OPP's role is recognized formally, all its effort will be wasted. Therefore, a formal agreement was then made between the Karachi Metropolitan Corporation and OPP.

The usual practice of government officials responsible for the development of squatter settlement is to misuse the political weakness of the people and the unequal relationship between them and the community. Sub-standard work is done, because there is no check on the physical development work they do by employing the approved contractors. By doing so the officials receive kickbacks and the contractors make enormous profits at the expense of the community. The problem of accepting OPP and integrated approach was that, the integrated approach seemed to undermine the administrative and executive authority of the officials of KMC. They would lose their authority over the project, the extent of work would be reduced and it would be difficult for them to make money out of the project. That is why they initially did not recognize OPP and did not cooperate with them rather they tried to hinder their work by not giving them required documents .

## **2.8 : DECISION MAKING**

There are different levels of work for which different actors participated. For overall coordination of work especially regarding the external development all the major decisions are taken by calling a joint meeting of all the actors involved in the project, usually by the project director, directorate of Katchi Abadies, KMC.

Consultant appointed by the KMC is responsible for the planning of the external development, which is done on the basis of the documentation of the existing work provided by the OPP. Planning done by the consultant is scrutinized by the Project Director with the help of OPP. Planning of internal development is done by OPP but the decision to construct the sewerage lines requires the agreement of the households living in the lanes. More than 70 % of the people of Orangi, motivated by OPP, have organized themselves on a lane basis and decided to lay the sewerage lines in their lanes. In the project area, in 43 % of the lanes people have already laid sewerage lines.

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	Internal Development	External Development
Planning	OPP & Community	KMC & OPP
Finance	Community	KMC & ADB
Motivation	OPP	
Implementation	community	KMC

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## 2.9 : MONITORING OF WORK

When the external work started OPP found it to be very substandard. Residents also started complaining as in some cases in order to avoid deep excavation, the external lines were not linked with the internal lines. The lines were shallow and at some places, came out of the ground. In some places, lines were not laid although maps showed them. The manholes were so weak that it broke in a few days. The work was being done very rapidly and no one was there from KMC to supervise the work done by the contractors, who to have maximum profit were doing substandard work.

OPP then complained this to the Mayor and the Mayor checked the work and found them substandard. Around 110 manholes were ordered to be destroyed because of bad work. Since KMC engineers were partners of these contractors, they never checked or complained about their work. OPP trained the area activists about the work; for example number of cement bags to be used in a manhole or the composition of the mixture, number of steel bars in a manhole, depth of the manhole and the lines etc. The residents then started monitoring the work in shifts. It became very difficult for the contractors so they started working at mid night, there were also incidences of fights and warnings for grave consequences from the contractors to the residents. Residents complained to OPP and then OPP held a meeting. It was decided that until and unless the residents sign that they are satisfied with the work, the contractors should not be paid.

This was the first time that the government's work was being supervised or monitored by the residents of low income area. But due to this the quality of the work is excellent.

## **2.10 : ADVANTAGES**

The community has got organized and has developed managerial and technical skills. The existing work is not duplicated, hence the investment made by the community is saved and cost of development is reduced drastically. As a part of external development, all the open drains were converted into underground secondary drains. Therefore, the environment and health conditions of the area would improve. Community got trained technically and in future they would be able to do repair work themselves if required.

## **2.11 : LESSONS LEARNT**

- 1 : The quality of government's work in external sanitation can be controlled and kickbacks stopped, through mobilizing community to supervise work.
- 2 : The cost of government's external sanitation can be drastically reduced by modifying design standards and preparing estimates based on actual site conditions.
- 3 : In government there is no working system/master plan. Actions are ad hoc.
- 4 : There are local CBOs and NGOs working at local level. These organizations can play very important role in mobilization, motivation and monitoring of the project.
- 5 : There are skills within the community to undertake labor contracting for external works.
- 6 : Monitoring done by the community is very effective. In this way the community also learns technical skill.
- 7 : Community participation is a misleading term. Every where communities are participating to solve their problems, what is needed is government's participation in community's work.

## **CHAPTER THREE**

### **CASE STUDY 2**

#### **3 : Collaboration With SKAA In Welfare Colony In Karachi**

##### **3.1 : INTRODUCTION**

Welfare colony is a low income squatter settlement spread over 30-35 acres of prime land, situated in the center of the city near fruit and vegetable market. It has 1415 houses and 117 lanes. Residents in Welfare colony have small shops in the market. Most are rickshaw/ taxi drivers, fruit dealers and laborers in the market; there are also small home industries making slippers, prayer caps and ready made garments and tailoring. The story of Welfare colony shows the strength of people's effort and their organizational skills. The government's role has been negligible.

Considerable development has been achieved by the community on a self help basis, 91% lanes have sewerage laid by the residents investing a total of Rs.1.5million. Water lines in the lanes have been laid at a cost of Rs.1.6 million. Other community efforts include the construction of three culverts over the natural creek, earth filling of lanes and roads, construction of a boundary wall around 0.5 acres of graveyard, and preparation of a survey map of the area. Developments in the welfare colony have been due to the efforts of the local organizations and motivated activists. These activists work on voluntary basis. They were able to put political pressure and were able to lobby for some of the services and facilities in the area.

With underground sewerage lines laid by people, the hazard due to filth flowing in the lanes has been controlled. The creek passing through the settlement serves as sewage, garbage and rain water disposal. It is the prime source of filth in the area.

### **3.2 : COMMUNITY EFFORTS**

#### **- Struggle For Water :**

Initially residents carried water in canisters from far off areas and some would buy from people in the settlements at 0.50 paisa per canister. A water conduit of 18-48" diameter passed below the settlement ; people took illegal connections spending Rs100/house without notifying the municipality. For a few years the water supply was enough but then, there was a shortage, as water pressure reduced, people took a second connection from another line passing through the main road, supplying the milk plant nearby, spending Rs. 300/ house. Again in 1979, Rs. 150-200/house was collected. With the total of Rs 30,000 an illegal connection was taken from the line passing along university road, adjacent to the settlement. But after seven years again the pressure reduced due to connections made by the neighboring settlements and the luxury flats being constructed. Residents got another illegal connection by spending Rs. 200-300 from an adjacent settlement named Essanagri. Finally in 1992, with the help of a councilor, residents took another connection paying 700/house to the councilor. To meet the shortage and irregular supply of water, some people installed motor pumps for suction, some have wells, fifteen to twenty houses bored well in the area at a depth of 18'-20', spending Rs. 3000-6000.

#### **- Arrangement For Sewerage and Waste disposal**

Waste disposal at first was makeshift: "We made ditches near our house for waste water collection and bucket latrines for excreta" says Mehboob Shah, a resident of welfare colony. Scavengers used to take Rs. 5 per house per month to clear excreta from our house every day. But as scavengers were irregular people would throw waste in the creek that passed through the settlement. Some people had also made soakpits. At that time the creek was twice the size today and twice the depth. During 1979-1980, people began to lay sewerage lines in their lanes. A resident Mohammad Bashir says, "my house was 40' from the creek we laid the line independently and spent Rs. 300 on it". Another resident Saeedullah Khan says "we laid the sewerage lines ourselves, contributing Rs.100 per house. But our lines got choked and the lines were relayed this happened thrice and each time we increased the diameter of the pipe , the cost increased from Rs. 150 to Rs. 200.

Due to lack of technical guidance people have had to lay sewer lines twice or thrice. Each time the contribution increased from Rs. 50-200 to even 400 per house. Rectification, relaying of pipes continues and the residents have to spend money on it.

### **3.3 : CONSTRUCTION OF SEWERAGE SYSTEM**

The internal development was carried out by the people and the external development was carried out by the government by the lease money collected from the people. This was first time that even the external development was done out of people's money.

The people had already undertaken internal development in sanitation, i.e., installed latrines in their homes, lane sewers and secondary sewers on a self help basis. They had financed both lane sewers and lane water lines. All the sewerage lines disposed in the natural creek. But due to encroachments, silting garbage disposal and sewerage disposal in the creek not only from the Welfare Colony but also from the adjoining areas which includes a Hospital and apartments, the creek overflows, creating a very unhealthy environment, specially for the children who are playing near this creek, they are the worst effected. During rains the creek causes havoc; more than 1/3 of the settlement submerge in sewage. The Infant mortality rate is high. Families on average lose one child in five, mostly due to diarrhea. One child per month in a family becomes ill. Average expenses can range from Rs. 1500- Rs. 4000. Monthly expenditure on health care averages Rs. 125.

### **3.4 : BACKGROUND OF THE PROJECT**

Initially the residents wanted to take lease of the land as it is situated in a prime location and hence is very expensive. They contacted Sindh Katchi Abadi Authority (SKAA). SKAA is a provincial government organization under the Ministry of Local Government and Rural development with the Ministry for Katchi Abadies as its chairman. It was set up through an act enforced on 7th April 1986 to follow up the declaration of the Prime Minister in March 1986

that all squatter settlement (Katchi Abadi) existing before 23rd March 1985 stand to be regularized. A revolving fund of Rs. 250 m through ADB was provided.

The main functions of SKAA are :

- \* Declaration/notification of Katchi abadis in accordance with Sindh Katchi Abadis Act 1987.
- \* Regularization of Katchi abadis according to government policy.
- \* Upgradation of Katchi abadi, either directly or through local councils.
- \* To become a self- financing institute.

The residents lead by the local organizations applied for lease. The SKAA informed them that as there is no map of the area and that there is no fund available to make the area map so they cannot start lease work there. The area activists then organized the residents and collected Rs.75000 to pay the consulting company to make the map of the area. The organization provided the map to SKAA in 1992, to expedite the lease process. The activists helped people in fulfilling SKAA requirements.

OPP came to know through SKAA of the work done by people on self-help basis in Welfare Colony. With the help of the local organizations OPP documented water and sewerage lines in the area. During documentation OPP representatives discussed with the resident about the problems of the area. OPP noted that most of the internal development is complete and the remaining lanes can be constructed by the residents with the technical and social guidance. The creek development as part of external work appeared an obvious need. The DG SKAA was requested by OPP to develop the creek, with lease money recovered from the area. At the same time OPP approached the residents. The residents agreed that construction of covered drain will be done with the lease money where as internal development will be done by them. DG SKAA agreed and requested OPP to assist in the design. Initially OPP's role in the development of the design proposal was of an adviser and the design work was done by the SKAA engineers. Later OPP had to prepare the design as the design proposals prepared by the SKAA engineers were not appropriate.

### **3.5 : CONTACT WITH THE COMMUNITY**

In February 1994, a site visit was made jointly by OPP team and SKAA engineers. Area activists accompanied them and explained the damages caused by the creek. Area activists explained the sources from which rain and sewer water entered the creek. Welfare Colony being a low lying area, the creek level is the lowest point, so rain and sewer water from the Hospital, luxury apartments and commercial areas is disposed into this creek.

### **3.6 : DESIGN AND PHASING OF THE PROJECT**

Considering the link up with other areas OPP advised SKAA engineers to survey the catchment areas for both sewer and rain water and prepare alternate designs. Either develop the creek to take both sewer and rain water or design separate sewer for waste water. The main consideration while designing the system should be minimum displacement.

#### **SKAA's Design No. 1**

It consisted of the trunk sewers of 18" diameter, each passing through the center of the settlement costing Rs. 800,000. The problem with this design was :

- It did not consider that presently all lane sewers disposed into the creek. With the proposed trunk sewer the lane sewers would all have to be relayed, which was an impossible proposition. The design negated existing people's work.
- There was no realization that in laying trunk sewers for the settlements, the existing problem of pollution due to the creek would remain, as more than 75 % of sewer and rain water disposed into the creek, came from the adjoining areas.



## **SKAA's Design No 2**

The design that followed included a trunk sewer 24" diameter at the bed of creek, with the remaining creek filled up and dressed to shape to cater to rain water. Estimated cost was Rs. 10,85,000. The problems with this design were :

- The size of the trunk sewer did not relate to the incoming sewage from the adjoining areas with the result that sewage from these areas would flow into the creek so the environmental hazard would remain.
- If the sewage of the adjoining areas were to be linked to the trunk sewer then the rain water too would have to be taken into account. So the diameter of the trunk sewer would have to match the volume. Increasing the size of pipe in the present design was considered uneconomical.
- Issues like connection of lane sewers and their relation to location of manholes as well as maintenance issues were not addressed.

After discussion it was jointly decided to develop the creek as a covered drain. SKAA engineers were again asked to prepare the design and estimate considering the catchment area calculations. As SKAA engineers were taking time to do the design, so to speed up the process, OPP team held a meeting with the area activists. A walk survey of the creek was done, extent of silt, depth and width were checked.

With out waiting for the SKAA design, a conceptual design of the covered drain was worked out in consultation with the activists. The design was provided to SKAA engineers to check for volume as per calculations and for detail designing and estimating . Final design of the drain was estimated to be Rs 2.6 million. As lease recovery was only Rs 2.1 million, SKAA decided to take up the work in two parts relating it to lease recovery. First, 1000 rft of creek was taken up for construction, this covered the area where maximum lease had been recovered. Work on site

for creek development motivated others who were initially not interested to take lease. As lease work started, the remaining work was completed.

### **3.7 : ROLE AND RESPONSIBILITIES OF THE ACTORS**

#### **OPP**

Training and advisory services to SKAA for :

- Documentation of existing facilities in water supply and sanitation.
- Identification of required development in external sanitation and water main.
- Design and estimate of external sanitation.
- Monitoring and Implementation of external sanitation.
- Orientation of SkAA personnel on OPP approach.
- Documentation and Monitoring of projects.

Training and Advisory services to community organization for :

- Internal Sanitation and Monitoring implementation of external development.

#### **SKAA**

- Finance, Management and Implementation of external sanitation and water mains including surveying, detail designing, estimating, supervising, monitoring and documentation work.
- Issuance of lease, generation of funds from the Katchi Abadies for above works.

#### **Community**

- Finance, management and maintenance of internal sanitation and water supply.
- Monitoring external development.
- Acquiring of lease - submission of lease cost.
- Assisting in preparation of documentation of existing facilities, identification of external sanitation and water main and approving design.

#### **Community Organizations**

- Social and Technical guidance to community for their role.

### **3.8 : INSTITUTIONAL SETUP**

OPP worked with SKAA as a team, providing training and advisory services for replication projects first, in Welfare Colony then in Sukkur project. In 1994, SKAA decided as its policy to

undertake external sanitation and water mains in the squatter settlements in Karachi through the funds generated from lease recovery ( i.e. land ownership fee plus development charges). SKAA incorporated the OPP model as its policy for squatter settlement development. In 1994, OPP was appointed as the consultant.

Being a government organization is an inherent limitation of SKAA in dealing with people. On the one hand is the age old bureaucratic practice of government agencies and on the other is the people's image of them. Due to the limited interaction it was difficult for SkAA to differentiate between activists and touts. People preferred to deal with SKAA through touts or activists. Though people were asked to come to the DG (Director General) or Deputy DGs with any suggestion or complaint and people even had access to them but they knew that the DG and the deputy DGs can be transferred any time but field staff are permanent. Therefore, they preferred to have a harmonious relationship with the field staff.

SKAA as a policy decided to involve community organizations in its work, from the stage of leasing to development so that every thing is known to the community, there is no confusion, and participation becomes practical. SKAA team held meetings in the settlement informing about SKAA's work. Community knew that the amount generated through recovery of these charges would be used for external development in their area. An account of lease recovery with respect to each settlement was published in SkAA's quarterly report.

People's committee (mostly activists of the local CBO) selected by community members. collaborated with SKAA for lease work. Lease camps were set up in the area. A forum was thus evolved. People's objection were considered and modifications were made in the maps. Involvement the community in identifying external sanitation, monitoring and implementation of the work was made possible.

Technical team dealing with the development was built up but contractors were hired for carrying out the work because, according to SKAA, they lack technical resources. The engineers

passed on some of their responsibilities to the contractors for example, preparing specifications and construction work and no supervision was done by them.

Regular weekly meetings were held with the OPP team at OPP office. Problems were discussed and resolved. Regular monthly meetings were held by DG SKAA between SKAA and OPP members. Work was reviewed and coordinated. Written reports and minutes of each meeting are circulated. Since there was only one government department involved so collaboration between NGO, Govt. department and community was easy. This prevented from inter-departmental conflicts and unnecessary delays.

### **3.9 : DECISION MAKING**

OPP, after surveying the area and talking to people concluded that the construction of the creek was absolutely necessary. The point stressed by OPP and which convinced SKAA to take up this work was that most of the residents had already undertaken internal development in sanitation. They had invested so just by developing the creek would solve the sanitation problem of the area. OPP and SKAA proposed development of the creek with the recovered lease money, however, residents were free to choose otherwise. The final decision was to be made by the residents. The residents agreed with the OPP and asked for the construction of the natural creek.

Design was prepared by SKAA under the guidance of OPP. The design was however finalized with the help of the people. When detail design was completed and work was tendered, drawings of detail design were simplified and redrawn by OPP, and specifications were translated in Urdu from English. Copies of the design with estimated cost were provided to the area activists so that they remain informed about the work. Adjustments were made following complaints from the residents then it was given to the SKAA engineers for redrawing and estimation.

It was proposed by OPP that the monitoring should be done by the area activists as SKAA engineers never visit the site. Bad work should be reported to the OPP technicians who visit the

site twice a week. The problems were then discussed during the weekly and monthly meeting with the SKAA high officials and decisions were taken.

### **3.10 : IMPLEMENTATION AND MONITORING**

After the design was prepared, a meeting was held in Welfare Colony in the local organization's office. The SKAA engineers explained the design to the people in simple terms, and pointed out the need to check work at site. they introduced the contractor and SKAA's sub-engineer to the people and explained SKAA's arrangement for supervision. It was probably the first time that a government engineer was explaining the design details to the people and requesting them to assist in ensuring the quality of work. People were informed of the estimated costs. OPP trained the area activists how to and what to check for the quality of work. In case of bad quality of work, people were asked to inform the contractor on site or SKAA engineers. In case they did not listen or were not available to stop or rectify the bad work then people were asked to inform OPP or the senior official in SKAA.

An OPP worker was assigned to monitor work. He was asked to meet the activists of the organization during the course of his visits. Besides checking quality of work, monitoring by OPP served as a tool to train local activists and strengthen relation with people so that the work in lanes on sanitation and health would be introduced consequently. It was the duty of the OPP worker to visit the site twice a week and inform the SKAA about the defects. It was agreed that in the second visit if the fault remained then all work done in-between will be redone. But SKAA supervisors were always absent from the site so it was decided that a weekly meeting would be held at OPP's office to discuss about the work and problems would be resolved with mutual agreement.

Area activists monitored the work. They were the contact persons informing OPP on the progress of work. Defects identified by them were like improper desilting, defective casting, cracked wall of drain along graveyard, ratio of wall in one segment being less than specified. Drain roof slab

being cast without completely clearing the creek of construction debris, steel reinforcement in slab being undersized and improperly placed, delay in placing cover slabs improper curing.

### **3.11 : CONTINUATION OF WORK**

Welfare Colony was first of the many squatter settlements where such development work was done by SKAA with the help of OPP. SKAA decided as its policy to undertake external sanitation and water mains in the squatter settlements in Karachi through the funds generated from the lease recovery (i.e. land ownership fee and developmental charges). SKAA incorporated OPP's model of development.

Within a year work on external sanitation has been completed in six squatter settlements and water mains in eight squatter settlements in Karachi. 12091 rft trunk sewer and 25000 rft water mains have been laid.

### **3.12 : LESSONS LEARNT**

1 : Partnership between government, community and NGO is possible and effective when the government agency concerned is willing.

2 : In government a working system/ master plan can be evolved if the chief executive is willing.

3 : Survey and mapping is the critical stage providing loop- holes for corruption. Wrong dimensions and as a result over designing is done to maximize profits. Policies and procedures are in place but good practices are needed.

4 : Government engineers have the technical knowledge but they do not perform their role and leave all to the contractor. They prepare high specifications so estimates are increased, no

attention is paid to survey, design and supervision. No contact is made with the community as people are considered ignorant about technical matters.

5 : The cost of government's external sanitation can be drastically reduced by modifying design standards and preparing estimates based on site conditions.

6 : Despite government's plea that the procedure have been simplified, people still like to deal with the government agencies through their area activists or in some cases touts.

7 : There are local CBOs and NGOs working at local level if they are involved in the project, not only they can be very helpful but also potential at local level can be built up.

8 : Government agencies hire contractors for construction work, this results in the waste of time, high cost and bad quality of work due to profiteering and kickbacks. OPP held discussions with DG SKAA and engineers to explore the possibility of departmental work, that instead of hiring the contractors, SKAA engineers and technical staff should do the construction work. SKAA engineers opposed the idea, saying that it would be too much of a problem for example desilting of the creek would require pumping and they don't have pumps. Shuttering would be needed for concreting and they don't even have that. Though the problem of time, cost and quality in contractor's work was explained but the engineers assured that they would overcome these problems. The welfare Colony work has been a demonstration of the disadvantages involved in contractor's work.

## CHAPTER FOUR

### CASE STUDY 3

#### 4 : Collaboration Between UNICEFF and Sind Municipal Corporation

##### 4.1 : INTRODUCTION

###### The City Context

The city of Sukkur is the headquarter of the Sukkur division in northern Sindh province. It is located on the banks of the Indus river about 450 kilometers from Karachi. It has a population of about 450,000. About 50% of this population lives in informal settlements. Most of the city receives untreated water, directly from the river, and less than 25 % of the households are hooked to a sewerage system. A sewerage treatment plant has been constructed but it does not operate, since the main trunk sewer to the plant is damaged. Most settlements dispose their sewage into the nearby ditches which often floods. When that happens the Sind Municipal Corporation (SMC) sets up mobile pumps which pump the effluent into the Indus river.

###### The Project Area

The project area consists of the three squatter settlements of Gol Tikkri, New Pind and Bhoosa Lane. These settlements are situated close to each other. Details of the project area are given below :

	No. of House Holds	Population	Area in acres
Gol Tikkri / Bhoosa Lane	1393	9336	170.45
Kaan No 18 & 19, Police			
Head quarters	1696	9336	66.11
New Pind	1461	10816	90.45
TOTAL	4550	29483	327.01

Source : Sukkur Municipal Corporation.



The squatter settlements were established in the late 60's and grew in a big way in the 70's. Adjacent to them is an abandoned stone quarry. The quarry depression became the disposal place for their waste water, garbage and excreta. After piped water came to these settlements in the late 70's, the depression started filling up, and by the mid 80's it became a pond covering over 28 acres and having an average depth of 8 ft. The houses on the edge of the lake started getting inundated and during the rains a large area of the settlements came under the water. As the depression filled up, water table rose and an increasing number of lanes became water-logged. Other smaller depressions in the settlements also got converted into ponds and caused flooding in their vicinity.

The SMC installed two small pumps to deal with this situation, but they proved to be far from effective. Due to the unhygienic condition the infant mortality rate is 212 / thousand. It is higher than the national average of 80 / thousand.

The residents of the settlements come from different ethnic backgrounds. There are refugees from India in certain areas and there are migrants from the rural areas of Sindh and Punjab in others. The residents are, by and large, working class and a sizable number do odd jobs on a daily wage basis for the service sector in Sukkur. The average income is Rs2000 / month.

#### **4.2 : BACKGROUND OF THE PROJECT**

The Urban Basic Services Program (UBS) in Sukkur was commenced in 1988. In the UBS program, the UNICEF wanted to promote inclusion of the urban poor as a specific target in child health, safe motherhood, nutrition, hygiene, health education and women's program.

In this connection, the UBS staff and the commissioner of Sukkur visited OPP's health program. However they were told by OPP members that until and unless the sanitation condition is improved the health program is useless as the cause of the bad health condition should be removed first.

Finally the UBS staff, UNICEFF officials decided to adopt OPP's philosophy and methodology and to replicate OPP's experience. It was decided that first the sanitation work will be done then health program will be implemented as by that time community will be organized and will be enthusiastic because of the physical improvement in the area.

An agreement was signed between the department of the local government, SKAA and UNICEFF whereby the municipal authorities and OPP became the implementing agencies.

#### **4.3 : PROCESS**

##### **4.3.1 : THE SIGNING OF THE AGREEMENT**

The agreement between the various actors to replicate the Orangi model in the project area was signed in November 1990. The construction of the sewerage system was divided into external development work and Internal development work. Furthermore, it was decided that if necessary, due to financial constraints, external development work could also be divided into phase one and phase two.

##### **4.3.2 : DESIGN AND IMPLEMENTATION OF THE PROJECT**

###### **External Development**

###### **(a) : Survey and first visit : January 1991**

In January 1991 a joint visit was made by SMC and OPP officials to the project area in Sukkur. The situation was observed and discussions were held with the people and SMC engineers. It was immediately realized that the main problem was that the area has no disposal point except for the pond, which was overflowing and flooding the settlements. People were so desperate that they were willing to pay to have the pond emptied. It was clear that no external development could be undertaken without a disposal point being created and the pond being emptied.

**(b) : Phase 1 : Dewatering of Pond : design and estimate : April 1991**

The area was surveyed and an outlet to the river Indus 8000 ft. away from the pond was located. It was felt that water from the pond could be pumped out to that location. During the visit it was discovered that the PHED (Public Health & Education Dept.) office in Sukkur had prepared a Rs 2.2 million (US \$ 0.07 million) plan for dewatering the pond and taking the water to the river. Through mutual discussions on alternate solutions, a revised design and estimate was prepared by PHED, reducing the cost to Rs 1million. The PHED had no finances for the project but was willing to have it built if finances could be raised. It was also felt that a trunk sewer to connect the lanes was needed. Further a treatment plant would be constructed near the river bank so that untreated sewage would not be pumped directly into the river. Due to financial constraints these components would form phase 2 of the project. It was further felt that once the work began on the external development, motivational meetings could be held in the lanes mobilize people to construct sewage lines in their lanes.

**(c) : Arrangement of finances : June 1991**

In June 1991, a sum of Rs 1 million was arranged to carry out phase one of the project. The Mayor agreed to provide Rs 0.2 million and the UNICEFF agreed to provide an additional Rs 0.8 million. The SMC tendered out the work and the PHED provided the SMC with technical and supervisory assistance.

**(d) : Tendering : Work begins, October 1991**

A work order was issued to the selected contractor in September 1991, and work began the following month in October. It was to be completed by the end of December 1991. The construction of 8000 running feet 8" diameter rising main and pump house proved to be a complex affair. Permissions for electric connections to the pump house from the Water and Power Development Authority (WAPDA) were required and the Indus Water Authority (IWA) had to agree to the passing of a rising main through a protection embankment near the river.

**(e) : Work completed in April 1992 , but dewatering stopped**

However, the work was completed in April 1992 and dewatering of the pond began. But it was slowed down and finally stopped , as the Mayor, SMC, and SKAA agreed that the reclaimed land should be protected for use as a community open space.

**(f) : Pond dewatering : restarted in October 1992, January 1993**

Discussions were held and SKAA took responsibility for protecting the reclaimed land. Finally dewatering began in October 1992. It took time to organize its operation. In January 1993 the pond was dewatered and 28 acres of land was reclaimed. Plans for its development as a community space and facilities were prepared.

**(g) : Demonstration effect : link up of 4 more ponds : June 1993**

Due to the demonstration effect residents from 4 adjoining settlements requested Deputy Commissioner (DC) Sukkur to dewater the ponds in their respective areas. As a temporary measure, during the rains in June 1993, these ponds were connected to the project areas pumping station thus safeguarding the settlements from flooding. Due to residents pressure for a permanent solution, SMC and SKAA agreed to prepare and execute a plan for external development for these adjoining settlements.

**(h) : Phase 2 : Trunk sewer, design, estimate and tendering : work begins in Oct 92**

In September 1992 PHED prepared design and estimate for a 1800 running feet 18” diameter trunk sewer, that would carry the sewage of the settlements through the emptied pond to the sump well and pump house. SKAA agreed to provide Rs 700,000 (US \$ 22,580 ) for the trunk sewer from the SKAA/SMC joint account. SMC tendered out the work in October 1992. PHED offered assistance to organize work but SMC took the responsibility. PHED/SKAA officials provided SMC with technical and supervisory assistance. OPP monitored the work.

**(I) : Completion : September 1993**

The trunk sewer was to be completed in three months but it took one year. Finally, DC Sukkur had to intervene to speed up the work. The sewer is now complete.

## **Internal Development**

### **(a) : Preparation for the survey, plans and estimate ; October 1991**

Survey plans and estimates for internal work were completed by October 1991. Five manhole shuttering were sent to the project office from the OPP. A three day on-site training for the Project Director (PD) and the social organizers was arranged. In addition, training courses for the SMC area councilors and six local activists were also held at the OPP.

### **(b) : Motivation begins : November 1991**

Motivational meetings started to be held in November 1991. During the meetings slides of the Orangi experience were also shown. As a result, residents of three lanes appointed their lane managers and started collecting money from the residents.

### **(c) : Transfer of Project Director (PD) : hinders work**

However, in December 1991, the PD was transferred. A new PD was appointed. He was the health officer of SMC. In April 1992, he too was transferred, his successor became the next PD. Each new PD needed time to understand the project. This caused delays.

### **(d) : Lanes in Progress**

Following the dewatering of the pond and completion of the trunk sewer, residents started laying self financed, self managed and self maintained sewerage lines.

## **4.4 : MAINTENANCE OF THE PROJECT**

The SMC has undertaken to operate and maintain the pumping station and the trunk sewer. In addition, the PHED agreed to finance, operate and maintain the treatment plant. Investigations were made to ascertain the feasibility of selling the treated waste water for use in agriculture, thus generating revenue for operation and maintenance of external sanitation. SMC/SKAA have allocated a revolving fund of Rs 10000 from their joint account for operation and maintenance.

The amount generated from the issuance of lease to the residents in the project area is being secured in the joint account to be used as a revolving fund for further development.

#### **4.5 : ROLE AND RESPONSIBILITIES OF THE ACTORS**

##### **UNICEF**

Financing the external development, strengthening institutions and facilitation.

##### **Sind Kaatchi Abadi Authority (SKAA)**

Coordinator and Co-financier.

##### **Sind Municipal Corporation (SMC)**

Financing, Implementing and Maintaining the external sanitation.

##### **Public Health Engineering Department (PHED)**

Design and construction of the external work.

##### **Site Office**

Mobilization of the community for internal sanitation and health education and survey and planning for internal sanitation.

##### **Community**

Financing and managing the construction and maintaining the internal sanitation.

##### **Orangi Pilot Project (OPP)**

Training and advisory role, social and technical guidance for external and internal sanitation and the health program. Documentation and monitoring of the work.

##### **Steering Committee**

For the purposes of coordination and monitoring a steering committee works under the chairmanship of commissioner Sukkur division. A division is a subdivision of the province.

Sukkur is the headquarter of the Sukkur division. Its members include representatives of SKAA, OPP, SMC and UNICEF. Formal meetings of this committee were called on need basis but informal meetings were held to coordinate and monitor progress of the project; coordinate activities of different actors and remove bottlenecks for smooth running of the project.

#### **4.6 : ORGANIZATIONAL STRUCTURE**

(a) : Under the UBS programs in Pakistan, the commissioner of the division is the director of the program. In the case of Sukkur, it was decided that SMC officer would be the director since the commissioner could not possibly give time to the project. The first director was the public relations officer of the SMC, who was transferred; then the health officer of the SMC was the director, he was also transferred and his successor was made the director. Frequent transfers delayed the work.

(b) : A project site office was set up in the area. The office used to open in the evening so that people can visit the office after work. The function of this office is to provide information to the lane managers, to motivate and organize the residents, and to document and monitor work. The office was autonomous and worked under the guidance of OPP.

(c) : It was decided that social organizers would be appointed from within the community, where as under the UBS program social organizers were normally appointed from the local government bureaucracy. The OPP felt that government employees could not perform this function as they would not always be available to the community, and there would be problems of culture and language. Two social organizers were appointed from the community. The social organizers were trained at the OPP and their salaries were paid by UNICEFF through the OPP. If their salaries were paid by the government department they would not be able to resist the pressures government officials are normally subjected to, nor would they be able to act against the interest of superior government officials, if required. Successful community work cannot be done when the people doing it cannot act independently. The social organizers kept a diary of their activities and were provided with cameras to document the process of development.

(d) : It was decided that the two UBS social organizers would be required from the government's side as well. They were recruited especially for the project under government service rules as employees of the SMC. Their job was to coordinate internal-external work, and be a liaison between the project office, SMC, SKAA, UNICEF and OPP. In addition, they learned about internal mobilization and development in the process, so that they can become trainers for future UBS projects of a similar nature. One of the social organizer was a woman and she was responsible mobilize women for internal sanitation and health program.

(e) : The OPP team used to visit the project approximately once every two weeks. They used to review the work and provide on site-guidance. Along with providing plans and estimates, the project office concentrated on lane level mobilization and technical supervision. Social organizers got trained in the process.

(f) : Regular meetings, approximately once quarterly were held in Sukkur chaired by Director General (DG) SKAA to coordinate all actors.

(g) : The project area served as a demonstration and training center for other areas. The residents of other squatter settlements on the periphery of the project area and in other locations in Sukkur, visited the project and asked the project staff to help them in tackling their sanitation problems and to develop disposal points for their sewage.

#### **4.7 : DECISION MAKING**

As there were a number of organizations involved, there were confusions due to overlapping of roles and decision making. However organizations which were the financiers became the decision makers.

Various government organizations are not aware of each others plans and responsibilities for instance, the SMC did not know of the PHED scheme for dewatering the pond in the three



squatter settlements. Similarly, they are not aware of the funds that were available to their sister organizations and thus cannot coordinate work between them and make decisions accordingly.

#### **4.9 : FAILURE**

Despite success in the construction of the project, negligence in operation and maintenance of external sanitation by SMC since 1994 , caused setback to continuation of program. The initial cooperation was due to pressure from some of the high officials who were taking interest in the project, NGO and UNICEF staff. At present the pond is filled again since the pumping station is not working and the SMC official (who are newly transferred and were not part of the project) don't care.

#### **4.10 : CONCLUSIONS**

(a) : Government agencies lack the will to work as well as lack the technical and managerial skills for construction, operation and maintenance of external sanitation. Completion of external sanitation by SMC took 2-1/2 years instead of the required six months. Construction work has had innumerable defects which had to be rectified. Problem of operation and maintenance persisted since June 1994, as SMC showed no willingness to take up the work.

(b) : There is no accountability in government. Decisions taken in meetings with Ministry, commissioner, Deputy Commissioner and administrator were not followed.

(c) : Community participation is not the problem. With external sanitation completed in November 1993, within a month, community started laying sewerage lines in lane investing Rs 199,412 in 1650 rft sewer in 14 lanes and 155 sanitary latrines. However the work stopped due to problems in operation and maintenance of external sanitation. Simultaneous to construction of lane sewers, within three months people paid to SMC the cost of external sanitation amounting to Rs 1.7 million as lease and development charges.

#### **4.8 : LESSONS LEARNT DURING THE PROJECT :**

- (a) : If the lack of trust and hostility between government agencies and residents of low income settlements can be overcome then people are willing to pay lease and development charges
- (b) : If middle level government functionaries are involved from the very beginning in dialogues and discussions on new approaches and their benefits, they become supporters and promoters, provided they are assured of an important role in decision making and implementation.
- (c) : Government agencies have the financial, managerial and technical resources for providing external development but not for providing both external and internal development. In providing external development it is necessary that the available financial and technical resources are utilized under a project that is compatible to the situation on the ground. For this unconventional approach training and research are required. In case of Sukkur, OPP provided the training.
- (d) : Various government organizations are not aware of each others plans and responsibilities due to which development is hindered. In the case of Sukkur for instance, the SMC did not know of the PHED scheme for dewatering the pond in the three squatter settlements. Similarly, they were not aware of the funds that are available to their sister organizations and thus cannot coordinate work between them.
- (e) : Changes and adjustments in the program's procedures and directions can always take place to suit new approaches and objectives, if the individuals involved have the will to understand each others point of views.
- (f) : It is essential that the coordinator of the program should be from the government. NGO's and consultants cannot be the coordinators as they have no authority and institutional links with other government departments. Even if such authority is given to them, they still are outside the "system".

(g) : Politicians, planners and government agencies have a some what incorrect view of low income groups as lacking resources, fatalistic, easily mislead and poorer than what they really are. Low income group in Pakistan aspire to improve their physical and social conditions and are willing to spend their hard earned money on these needs but not willing to waste it on substandard and high cost work.

(h) : Working with government, unforeseen obstacles are encountered, resulting in delays for example frequent transfers of officials and disqualification's of local bodies by the bureaucracy.

## **CHAPTER FIVE**

### **5 : ANALYSIS OF FINDINGS FROM THE THREE PROJECTS**

#### **5.1 : ROLE AND RESPONSIBILITIES OF THE ACTORS**

Given the scarcity of financial and managerial resources, government agencies are not capable of providing all Infrastructure services. The integrated approach for the provision of sewerage infrastructure will help communities, NGOs and international funding agencies share the responsibility with the government agencies. The community, NGOs and international funding agencies should therefore, also take the responsibility for planning, financing, motivating and implementing of the project according to their skill and capacity.

In an integrated project, a formal set of terms of references is required for each party in the project, to ensure effective application of the responsibilities assigned to the participants. Such an agreement would have to have mechanisms of checks and balances for each participants, so that the chances of lapses in fulfilling the responsibilities are minimized.

The project of the Welfare Colony was initially based on a verbal agreement between the SKAA and OPP, which was later formalized following the behavior of SKAA employees who being government officers were not ready to cooperate despite the fact that the head of this organization wanted to work with OPP's collaboration. Therefore, a formal contract is necessary when dealing with the government (formal sector).

The projects of Sukkur and Orangi were components of larger projects, the Sukkur project being a component of the Urban Basic Services Program of the UNICEF, and the Orangi project being a part of Karachi Special Development Program. A formal agreement, defining the broad roles of the various actors existed in both these cases, but the specific responsibilities were not mentioned. This lead to putting responsibilities of even small works on each other which lead to delays and irresponsible attitude.

Besides an agreement, there is a need to have a overall monitoring body which has the authority to check the lapses by any of the participant. As there was no main coordinating and monitoring authority.

## **5.2 : INSTITUTIONAL SETUP**

### **Relationship Between NGO and Government Agency**

The NGO acted as an intermediary between the government and the community for the provision of services. Therefore, one of the most significant relationships that can enhance the integrated approach is the NGO- government relationship.

There is difference in the working of a government and an NGO. NGOs can start the work as soon as their proposal is complete where as the government agency has to fulfill the bureaucratic procedures, lot of paper work has to be done taking care of various rules and regulations; there are a lot of steps and if any thing is stuck any where, it takes time to get it passed.

One of the main problems which a NGO faces in working with a government agency is that it cannot plan before hand how much time will be required in passing through the stages of planning, cost estimation, plan approval, tendering etc. Given the situation where internal work is not done, and the external work has to be done before the internal work then during the work, residents should be mobilized for the internal work. But the external work should complete before people start laying internal lines. In Sukkur people became very upset as they laid the internal lines but the external work was delayed. NGOs should realize that working with the government agency has to be done by compromising with the government's existing system of working therefore, they should plan accordingly.

### **Relationship Between Government Agency and Community**

The concept of the integrated approach implies partnership in development between government agencies and community. In the integrated projects for the sewerage development, the work done

by one has to be complemented by the other. It is therefore, necessary that they should establish a rapport with each other.

The case studies of Sukkur reveal that government officials were not successful in building a rapport with the community. When a government official goes to the people to ask their opinion on planning, people instead of agreeing to share the responsibility in development, ask the government to do all the work for them. People have the perception of official agencies as donors of basic services, they cannot perceive a government agency as a motivator or advisor, the reason being that the people and the government have never worked together before and they do not trust each other.

It is seen through Sukkur experience that the government officials cannot mobilize people; to mobilize people, activists are needed from the community. Under the given conditions community and government agencies could work together if an outside agency act as a intermediary between them.

### **5.3 : DESIGN CONSIDERATIONS**

In the three projects, planning for external development was the responsibilities of the concerned government agency. Although the government agencies have the necessary skills and capacity to take the responsibility for the planning of external sewerage system but due to lack of understanding of the situation, bureaucratic attitude, and corruption they come up with plans which are inept for the situation. For example in Sukkur, plans for external development were prepared by the Public Health Engineering Department (PHED), and later it was modified by the OPP. In Welfare Colony, planning was the responsibility of the SKAA, but in the end it had to be done by the OPP. In Orangi, although planning was the responsibility of the KMC, the responsibility was transferred to OPP under an agreement between KMC and OPP. Planning for internal development was done by the OPP in all the cases.

## **5.4 : PHASING OF THE PROJECT**

Phasing of the activities is necessary to avoid gaps and overlapping in the project activities. The importance of phasing increases when several actors are involved in the process.

Completion of the project in time is necessary to maintain the tempo of the project and to avoid unnecessary gaps between the project activities. The importance of scheduling the activities increases more when working with the community, because any gap or delay can upset the community, as has been observed in the case of Sukkur. As the integrated projects were started without any organizational framework, activities were also not properly phased and they consumed lot of time.

In sukkur, the process of community mobilization started from the initial stage of the project, because it was assumed that by the time external development would be completed by the respective government agency, the community would be organized to undertake the internal development. This did not happen and a gap was created between the two activities. The people who were organized and ready to start the internal development, were not able to do so due to the non-completion of external development.

Integrated projects consume more time than conventional approach because the integrated approach involves mobilizing community, establishment of an organizational base in the community and training of persons involved in the project. However, by a careful phasing of activities and time scheduling it may be possible to save some time.

## **5.5 : FINANCES**

The planning and financing of the external sewerage system was the responsibility of the government agencies. In the Welfare Colony the external work was financed by the lease money collected from the residents by the SKAA. In this way people's money were spent on the external development and no foreign funding was required. In the case of Sukkur, due to non availability

of funds with Sukkur Municipal Corporation, funds for external development of the Sukkur project had to be provided by the SKAA and UNICEF. The policy of international agencies (except in the case of Orangi, where all the costs related to external development were borne by ADB) has been to provide partial funding for external development. Looking at the financial position of the Sukkur Municipal Cooperation, it can be assumed that the financial positions of the municipal agencies in other cities of Sind would be similar or worse as Sukkur is third largest and developed city.

Under the given condition, it is wise that SKAA should give lease to these squatter settlements and the money collected should be spent in external development.

## **5.6 : MOTIVATION**

The social organizers held meetings with the lane residents and explained them the benefits of the underground sewerage system with the help of slides. They also told them how impossible it is to get a sewerage system from the municipal authorities at an affordable price.

In Sukkur, Sukkur Municipal Corporation was responsible to appoint social organizers. The social organizers they appointed were people from outside the community. They were not able to motivate the people, reason being that residents would never trust people they don't know. OPP had to appoint two activists from the community who, under the guidance of the OPP 's social organizers, motivated the community for internal development and for the health program.

The experience of the three cases shows that the motivation of the people to undertake internal development has to be done by a organization consisting of social organizers from the same community.

## **5.7 : COMMUNITY PARTICIPATION**

The basic concept of the integrated approach is the involvement of the community in the development of a sewerage network infrastructure. In the three cases, it is evident that



community has always participated in the development. They have on their own laid sanitation lines, built soak pits and septic tanks, spending their money. In some cases as the communities were not organized, they were tempted by their councilors and leaders not to construct lane sewers as they would be provided with this service free of cost. But when these communities of Sukkur and Orangi were asked to participate they were found to be willing to participate in the internal development. They were asked to participate in the planning by presenting their opinions and suggestions on the plan during the meetings in the respective settlements. Although , planning and designing is a purely technical matter, the people who could understand some technical points, were aware of the problems and presented viable solutions to problems.

## **5.8 : DECISION MAKING**

In an integrated project, government agencies, communities, NGOs and funding agencies have different activities to perform. All their activities need to be coordinated, which is only possible if the decisions related to the activities of the individual participant are taken with the consensus of all the participants.

In all the three cases, decision related to different aspects of internal and external development were taken by the actors responsible for that particular aspect, and the opinions of other actors were also taken into account. However, in some instances, due to the absence of a main coordinating body decisions became controversial and actions uncoordinated.

The actors responsible for a particular aspect of the project could take the decision with the consent of other actors, also in the initial stages when the people are being given information , it is necessary to take some decisions and those decisions should then be placed before the people for discussion in such a way that a consensus is developed.

For the coordination of all the decisions there is a need for a main coordinating body.

### Comparison Of Decision Making Structure For The Project Activities:

	Sukkur		Orangi		Welfare	
Activities :	Inter.	Extern.	Intern.	Extern.	Intern.	Extern.
Planning :	Comm. & OPP	SMC & OPP	OPP & Comm.	KMC / KWSB & OPP	Comm.	OPP & SKAA
Finances :	Comm.	SMC & UNICEF	Comm.	ADB & KMC	Comm.	Comm. (Lease Money)
Motivation:	CBO & OPP	-	OPP	-	-	OPP
Implement. :	Comm.	SMC Comm. & OPP	Comm.	KMC & KWSB	Comm.	OPP & SKAA

### 5.9 : IMPLEMENTATION

Implementation of work at the internal level is related to the level of community organization. If the people are organized and the disposal point is available they will lay the lines in their lanes. In Orangi the people have even laid the small secondary sewers in their lanes to reach the disposal point. It was possible in Orangi, because the community was organized.

## 5.10 : PROJECT COSTS

One of the objectives of the integrated approach is to reduce the cost of sewerage infrastructure development, so that the amount of funds required as loan by the government agencies from the international donors would be reduced, which in turn would reduce the financial burden on the government agencies.

The major reduction in cost to the government agencies is made possible by transferring the responsibility of internal sewerage development to the community.

Cost (million rupees)						
Items Of Work	Sukkur		Orangi		Welfare	
	C.A	I.A	C.A	I.A	C.A	I.A
External Deve.	3.71	1.54	27.8	27.8	10.8	2.6
Internal Deve.	7.2	3.00	287.0	57.4	1.5	0.5
Establishment & direct cost	-	0.70	-	0.72	-	-
Total	10.9	5.24	315.52	85.2	12.3	3.1

Source: Orangi Pilot Project Survey Report.

C.A : Conventional Approach., I.A : Integrated Approach.

By reducing the scope of the work to only external development for the government agencies, the cost of the sewerage system has been reduced to one third of the prevalent conventional project costs. The cost was reduced because all the internal sewerage work was financed and maintained by the community. However the cost of external development cannot be reduced, because of the government's approach, that the work has to be carried out by the contractors, although they possess technical staff. Work done through the contractors involves a lot of profiteering and kickbacks, the contractor has to pay (bribe) the engineers, supervisors and overseers, so he reduces the quality of the work to meet these extra expenditure. As a consequence, the cost is high for the people but the quality of work is sub-standard. The reduction of cost in external expenditure in the above examples is due to design and technical improvement done by the OPP.

The government agencies do have some capability and it should build up its potentials to do external work themselves that will be cheaper as well as it will improve their skills.

## **CHAPTER SIX**

### **Conclusions and Recommendations**

#### **6.1 CONCLUSIONS**

##### **Lack of coordination**

The government agencies, NGO and the community do not have any precedent in the past of working together. Therefore, the implementation of the integrated approach presents problems of coordination among the participants. An effort is needed to improve the coordination at the project planning and implementation level.

##### **Problems of attitude**

The government officials, councilors and community leaders who have vested interests attached with the development of the settlement, oppose this approach and view the project with skepticism. The concerned government officials, councilors and community leaders have to be trained, to understand the objective and the philosophy of the integrated approach.

##### **Working with the community**

Mobilization of the people to undertake internal development has to be done by an organization consisting of social organizers from the same community, working under the advise of a support NGO. A team of technicians and social organizers is needed within the settlement to provide social and technical support to the community, to resolve the problem of language, culture and to build up rapport with the community. Working with a community requires continuity, flexibility and low profile.

##### **Potentials Within Squatter Settlements**

The people of the squatter settlements have the willingness to improve the physical conditions of their settlements. If they are organized and provided with technical assistance, and social guidance, they can finance and manage the construction of sewerage lines in their lanes. There

are people in the community who are aware of the problems related to the physical development of the settlement. They can perceive their problems fairly objectively. Efforts should not be wasted by government agencies to identify the problems. What is needed is, an understanding of the extent of the problem, how people perceive their problem, what efforts they have made, and what possible solutions they suggest.

### **Role of NGOs**

The NGO should act neutral, should not have any political affiliation, neither with the community based organizations nor with government or funding agencies. The emphasis of the NGO should be on the training of a team of social organizers and technicians who can work in the community with its support. A NGO should maintain its contacts with the community through this team. From the initial stage the NGO should clearly define its role and interests to the community.

### **Role of Government Agencies**

SKAA is responsible for the development and upgrading of the squatter settlements in Sind. For the upgrading work it receives some fund from the Provincial Government. At the city level, the Municipal Corporation is responsible for providing basic services. As the Municipal Corporations operate at city level, it can take the responsibility of coordinating the project activities at the city level. The role of SKAA would be overall coordination, monitoring and documentation of the project.

### **Cost Reduction**

Implementation of community based projects require a financial input from the community. A NGO cannot contribute in financial terms, it can assist the local government in saving large amounts of money in managing urban development, by acting as intermediary between the community and the government agencies. Further, the cost can be reduced drastically if the government agencies take up the construction of external development themselves rather than appointing contractors. These agencies have technical department and do have necessary

potential. As the work done in these settlements are in small scale, the engineering departments can easily manage them.

The process of building partnership among government, community and NGOs, though slow, has already started. Improvement in the working process and coordination of the actors is required.

## **6.2 : RECOMMENDATIONS FOR IMPROVING THE COORDINATION IN THE INTEGRATED PROJECTS :**

### **Proposal Description**

On the basis of the problems in coordination identified in the three case project, an organizational setup is proposed to achieve a better level of coordination among the participants of the project.

The responsibility of overall coordination and implementation of the project should be assigned to the coordination office of SKAA. Because SKAA was established for the purpose of upgrading the squatter settlements in Sind and has the funds for the development work. The coordination office should be headed by deputy director coordination ( who will be under Director General SKAA). The chief executives of all the participating agencies and organizations should be members of this office.

For the Implementation of an integrated project, the focal point of the activities at internal and external level should be the project offices at the settlement level and the city level respectively. The city level office should have its place in the premises of the Municipal Corporation and should be headed by a Project Coordinator, deputed by the chief executive of the municipal corporation. The incharge of the settlement level office would be a person from support NGO, who would not always be present in the office, but would pay timely visits to the office. The other staff should consists of at least three persons selected from the community. One person should have a technical background so that he can quickly learn to make plans and estimates; there should be one male and one female social organizers. The female organizer would have access to the women of the community and this will help to speed up the motivational activity.

The role of councilors and political leaders is very crucial in this whole setup, for they always have been tempting people and affirming people's belief that all the services related to sanitation, water and roads should be provided by the government. The problems from their side in the implementation of integrated approach can only be avoided by raising the consciousness among the community people and making them realize the importance of their own contributions, the role they have to play in the local setup and that they have not been provided with the services by their leaders for many years. The message should be that this is their last chance which they should avail if they want the development of the area. However, the councilors should also be involved by including them in the construction of small collector drains (intermediary between lane sewers and secondary sewers) through the grant-in-aid which they receive from the Municipal Corporation.

### **Project Office**

The project office should consist of two levels; One at the city level and other should be at the settlement level. The project coordinator (a municipal corporation official) should be in charge of the city level office. An official from support NGO should be in charge of the project office at the settlement level, with a three member staff consisting of social organizers and a technician.

### **The function of the project office at the city level are :**

- (a) To coordinate with the Municipal Corporation/Public Health Engineering Department and the technicians of the support NGO in the preparation of sewerage master plan incorporating the planning for internal and external development.
- (b) To implement the sewerage system at the external level.
- (c) To coordinate with other government departments to facilitate the implementation of the project activities.



**The functions of the project office at the settlement level are :**

- (a) To mobilize the community to undertake sewerage development at the internal level.
- (b) To prepare detail plans and cost estimates for each lane.
- (c) To provide technical assistance to the people in the construction of lane sewers and supervise their work.
- (d) To maintain the record of the progress and submit the same to the support NGO.

**Staff And Operation Of The Project Office**

**(a) Staff Required At The City Level**

For the project office at the city level, a project coordinator with one assistant and a office clerk is required. All this staff shall be on deputation for the project period. The project coordinator should be selected by the Chief Executive of the Municipal Cooperation with the approval of the SKAA and the support NGO.

**(b) Staff Required At The Settlement Level**

The project office at the settlement level consists of three persons selected from the community; selection should be done by the support NGO. Out of these, one should be a woman and one should have some expertise in the field of construction.

**(c) Operation Of The Project Office**

The city level office can operate under the management and finances of the municipal corporation. The Project Coordinator shall be responsible to the Chief Executive of the Municipal Corporation.

The settlement level office should work under the management of the Support NGO. Funds for the salary of the staff and other office expenses shall be disbursed by the support NGO. Funds for the services of support NGO, paid by the Funding Agency, shall come directly into the account of the support NGO.

### **Role Of Sindh Katchi Abadi Authority (SKAA)**

The SKAA's role should be overall coordination and monitoring of the project activities by maintaining a close liaison with all the participants of the project. The authority should assist in funding the cost of external development, in case the Municipal Corporation is unable to finance. The specific role of SKAA :

- (a) To select the squatter settlement for the provision of sewerage infrastructure; this should be done with the consultation of Municipal Corporation.
- (b) To insure the implementation of the project activities as per the prescribed work plan.
- (c) To manage the overall documentation and monitoring of the project through review meetings and field visits.
- (d) To take decisions regarding the project activities through meetings with the members of the coordination office.
- (e) To prepare and disseminate the quarterly progress reports.

### **Role Of Municipal Corporation**

- (a) To select suitable persons from the Municipal Corporation and sent them to support NGO for the orientation of the program and training.

- (b) To establish a project office and select suitable persons for the position of project coordinator and his assistant with the assistance of SKAA and support NGO.
- (c) To provide and make available all the necessary data and maps regarding the project area.
- (d) To finance the external development work.
- (e) To provide necessary support and assistance to the Project Office.

### **Role Of public Health Engineering Department**

- (a) To provide necessary input in the planning and designing of the external development, as and when required by the municipal corporation.

### **Role Of Community**

- (a) To participate in the community mobilization meetings.
- (b) To organize communities on lane basis and select a representative.
- (c) To identify needs and priorities by participating in the planning process.
- (d) To finance, manage, construct and maintain the lane sewers.

### **Role Of Support NGO**

- (a) To provide training to the Project Office staff at the settlement level in community mobilization, planning, cost estimating, supervision of construction of lane sewers and preparing extension literature.

- (b) To provide continuous social and technical guidance to the Project Office at the settlement level.
- (c) To prepare a plan for internal sewerage system.
- (d) To identify and appoint social organizers from the community.
- (e) To operate the Project office at the settlement level and submit quarterly fund requirements to the funding agency.
- (f) To coordinate with the Project Coordinator in preparing the sewerage Master Plan and provide necessary assistance in determining the nature of treatment and disposal system.

#### **Role of Funding Agency**

- (a) To provide funds to the municipal corporation for the external development, as and when required.
- (b) To finance the cost of Project Office at the settlement level.
- (c) To finance the establishment and direct costs to the support NGO.

#### **Constraints :**

- In all these cases, OPP has been the support NGO which provided the technical and social guidance to the community in constructing the lane sewers. However, OPP cannot work in all settlements. There are a number of NGOs working in different settlements but they lack the potential to guide the community in the construction of sewerage systems. OPP can give training to the staff members of the NGO, working in the settlement on community

mobilization and technique of sewer construction. The support NGO can work under the supervision of the OPP. OPP can provide guidance if and when required by the NGO.

At present, OPP has started training some of the NGOs working in the squatter settlements. One such NGO is 'Organization for Participatory Development' (OPD) which is working in Gujranwala, a small city in Punjab, Pakistan. Training was provided on community mobilization and technique of sewer construction. Guidance was provided on reporting, documentation and management of work. OPP team make occasional visits. Therefore, OPP has to play the role of a trainer for some time till some of the NGOs build up the capacity of this kind of work.

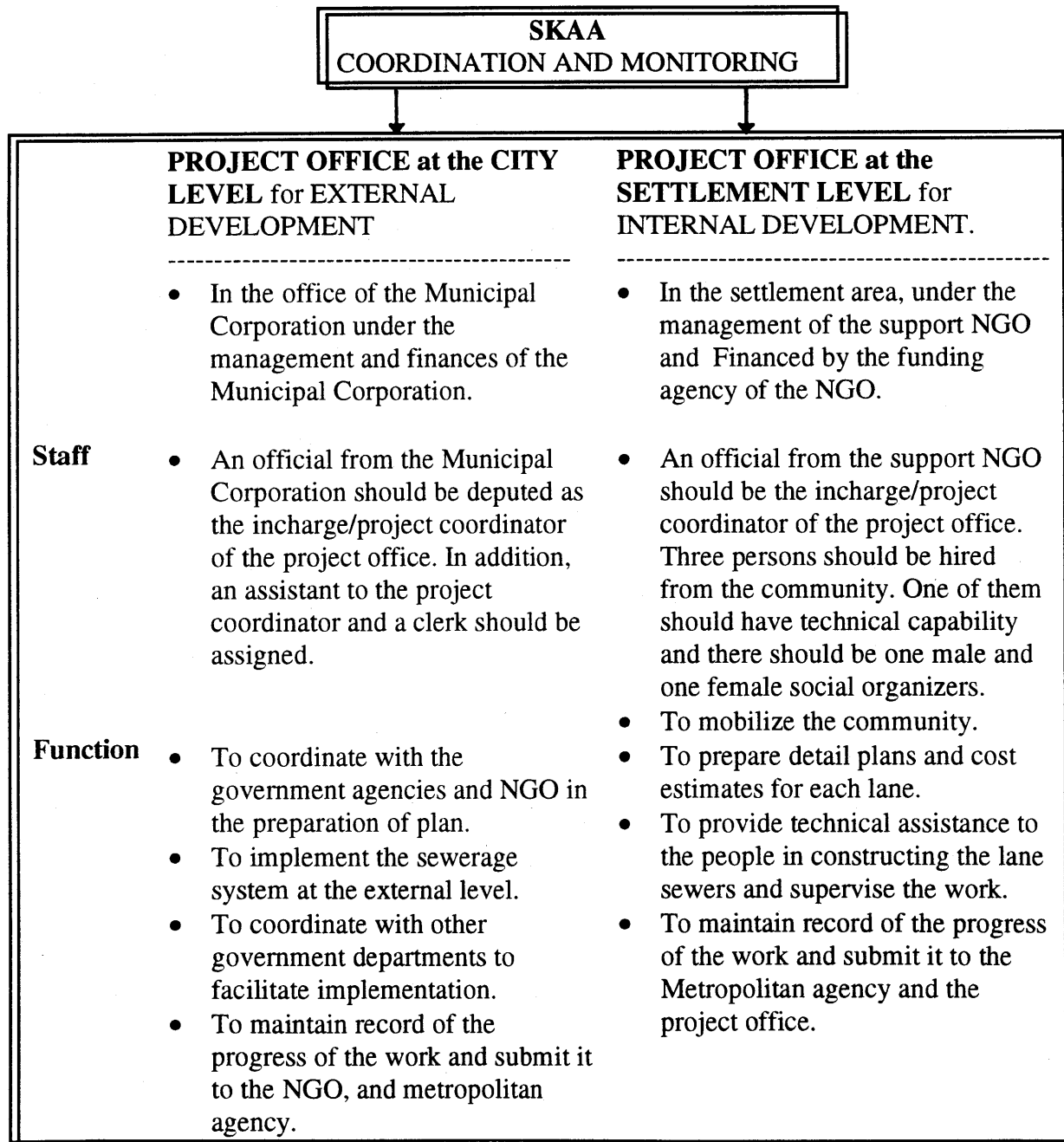
- The roles of various actors recommended above suggest the role of all the actors which can possibly be involved in the project. However, in some cases not all the actors are present. In case of Welfare Colony, SKAA and OPP were the only two actors involved. In the absence of the metropolitan agency, they faced lot of problems in doing the project. SKAA lacked in technical expertise, tools, information like data and maps and funds for development work. This is because SKAA has been created recently and its main function was to provide lease to community and do minor development work if required. As per the roles suggested in the recommendations, the involvement of the metropolitan agency is necessary.

In case of Sukkur project, PHED worked in preparing design of the external work and had some fund for that kind of work. They were complementing the SMC and SKAA, as all of them were doing the same work. In other case, PHED was not involved. If in some project PHED is involved, they can complement the Metropolitan agency and the Project Office can coordinate with them. The Metropolitan Agency can take their help if required by them and if the PHED have fund for that kind of work.

In the cases of Orangi and Sukkur projects, funding agencies were involved. In cases where there is no donor agency, they can raise revenue through lease money, as was done in the case of Welfare Colony.

The major actors in the integrated project, as recommended are the Metropolitan agency, NGO, SKAA and the residents.

## **PROJECT IMPLEMENTATION**



## ROLE AND RESPONSIBILITIES OF THE ACTORS

SKAA	MUNICIPAL CORPORATION	PUBLIC HEALTH ENGG. DEPT.	COMMUNITY	SUPPORT NGO	FUNDING AGENCY
<p>* To select the squatter settlement with the consultation of the Municipal Corporation.</p> <p>* To ensure the implementation of the work according to prescribed work plan.</p> <p>* Documentation and Monitoring of the project.</p> <p>* To take decision regarding project activities through meetings with the project office.</p> <p>* To provide fund for external development if recovered through lease from the community.</p> <p>* To prepare progress report.</p>	<p>* To depute suitable persons from the municipal corporation for orientation training in the support NGO</p> <p>* To establish project office.</p> <p>* To provide and make available relevant data and maps.</p> <p>* To finance the external development work.</p>	<p>* To provide necessary input in the planning and designing of the external development when required by the municipal corporation.</p>	<p>* To participate in the community mobilization meetings.</p> <p>* To organize on lane basis.</p> <p>* To identify needs and priorities.</p> <p>* To finance, manage and maintain the lane sewers.</p> <p>* If required, monitor external development work</p>	<p>* To provide training to project office staff.</p> <p>* To provide continuous guidance to the project office.</p> <p>* To prepare plan for internal development.</p> <p>* To identify and appoint social organizers and technician from the community.</p> <p>* To operate the project office and prepare the progress report.</p> <p>* To coordinate with the project office at city level in preparing the master plan.</p>	<p>* To finance the cost of the project office in the settlement.</p> <p>* To finance the establishment and direct cost to the support NGO.</p> <p>* To provide fund to the municipal corporation if required.</p>

## **Project Phasing**

The lack of coordination in the project activities, especially the gap between the community mobilization for undertaking the internal development and the completion of external development has been the major issue. Phasing of project activities is, therefore, necessary to minimize this gap because it is the most crucial aspect for the successful completion of the project.

Activities should be placed such that they follow a logical sequence. For example the appointment of social organizers should take place in phase 1, they should receive training in phase 2 and establish a project office in the settlement. In the phase 3 (after the completion of external development in phase 2) they start the community mobilization activity, thus eliminating the possibility of gap that has created problems.

### **Proposed Project Phasing :**

SKAA can identify the settlement with the consultation of the Metropolitan Agency. If any NGO is working in that settlement and do have potential to learn this kind of work then they can be given one week training at the OPP before the start of the project. This support NGO can work in the settlement under the guidance of the OPP. In cases where no NGO is involved, then OPP or the NGOs trained by the OPP can work there.

#### **Phase 1**

- Initial contacts with the community. The Metropolitan agency, SKAA and the support NGO should visit the area and organize meetings with the community. Explain the work.
- Identification and appointment of social organizers and technicians. The support NGO should make frequent visits, organize slide show about the benefits of sewerage system, information about the technology, their roles, and about the work done in other areas. The NGO should talk to the residents and in the process identify and appoint social organizers and technician.



- Establishment of the project office and deputation of staff by the Municipal Corporation. While the NGO is holding meetings and training the staff, the metropolitan agency should open the project office after two or three days of orientation training with the NGO.
- Survey of the project area and determination of disposal point. The metropolitan agency and the NGO should do the physical survey.
- Planning for internal and external development.

#### **Phase 2**

- Orientation and Training of the project staff. The training of the field staff by the NGO.
- Establishment of project office at the settlement level.
- Implementation of the external development.

#### **Phase 3**

- Community Mobilization. The social organizers should start mobilizing the residents of each lane to organize themselves, select their lane managers and collect money.
- Detail plan and estimates for each lane.

#### **Phase 4**

- Implementation of internal development.

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